

**STATE WATER RESOURCES CONTROL BOARD  
RESOLUTION NO. 97-**

ADOPTION OF FINDINGS AND THE MITIGATION MONITORING PLAN REQUIRED BY  
THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) FOR APPROVAL OF THE  
REMEDICATION PLAN UNDER WATER CODE SECTION 13397 ET SEQ., FOR THE  
PENN MINE SITE LONG-TERM SOLUTION PROJECT

**WHEREAS:**

1. On October 6, 1995, a Notice of Preparation of an Environmental Impact Report for the Penn Mine Site Long Term Solution Project (Project) was prepared and later circulated by the Central Valley Regional Water Quality Control Board (CVRWQCB) and East Bay Municipal Utilities District (EBMUD) as co-lead agencies in accordance with CEQA and applicable laws and regulations; and
2. Volume I of a Draft Environmental Impact Report (Draft EIR) for the Project (Volume I), which identified seven alternative projects, and Volume II of the Draft EIR, which identified Alternative 5A as the preferred project, were completed by the CVRWQCB and EBMUD; and
3. A Final Environmental Impact Report on the Project (Final EIR) that includes Volume I and II of the Draft EIR, as well as the Comment Response Document (CRD) containing responses to all comments upon the Draft EIR received by the CVRWQCB and EBMUD during the public comment period, and a Mitigation Monitoring Plan (MMP), were prepared by the CVRWQCB and EBMUD; and
4. At a public meeting of the CVRWQCB on February 28, 1997 in Sacramento, California, the CVRWQCB certified the Final EIR, adopted the findings and the MMP required by CEQA, and approved the Project after providing opportunity for comments from interested parties upon the Project and Final EIR; and
5. At a public meeting of the EBMUD Board of Directors on February 25, 1997 in Oakland, California, the EBMUD Board certified the Final EIR, adopted the findings and the MMP required by CEQA, and approved the Project after providing opportunity for comments from interested parties upon the Project and Final EIR; and
6. On May 16, 1997, the CVRWQCB and EBMUD jointly submitted to the State Water Resources Control Board (SWRCB) a remediation plan for the Penn Mine Long-Term Solution Project (Remediation Plan) and requested the SWRCB to approve it under Water Code Section 13397 et seq.; and

7. CEQA requires a responsible agency to make certain findings regarding that portion of the Project being approved by the responsible agency. The responsible agency must mitigate or avoid any significant environmental effect that is within its powers and that is caused by the portion of the Project that it approves. The SWRCB is a responsible agency for approval of the Remediation Plan. The SWRCB's powers are limited to protection of water quality, including regulation of waste disposal to land and surface water and protection of beneficial uses of water. The SWRCB also has jurisdiction to regulate water rights, but no significant environmental effects relating to water rights are identified in the Final EIR. Therefore, this resolution includes findings of mitigation of significant environmental effects regarding landfill stability, water quality, and impacts of water quality on biological resources.

**THEREFORE BE IT RESOLVED THAT:**

**The SWRCB:**

1. Finds the Project will provide long-term water quality protection from the effects of acid rock drainage (ARD) derived from the abandoned Penn Mine site located in the Sierra foothills near the inlet to Camanche Reservoir on the Mokelumne River. The ARD historically has been collected on site by several surface impoundments located in Hinkley Run and Mine Run Creeks. During high precipitation events and during periods of sustained precipitation and low evaporation, the capacity of the ponds has been exceeded, and pond solutions have been discharged from the mine site to the Mokelumne River or to Camanche Reservoir. The Project achieves source control through the excavation and removal of 300,000 to 332,000 cubic yards of waste materials that will be disposed of in an on-site landfill. All impoundments, including Mine Run Dam will be removed to allow the restored Hinkley Run and Mine Run Creeks to flow to Camanche Reservoir in their natural channels. A soil cover will be placed over areas of remediation for comprehensive habitat and vegetation restoration at the site.

2. Adopts an SWRCB Mitigation Monitoring Plan (SWRCB MMP) attached to this resolution as Exhibit A and imposes the SWRCB MMP as a provision of the Remediation Plan. These monitoring measures are imposed as conditions for approval of the Remediation Plan.

3. Finds with respect to impacts of Alternative 5A, which were determined in the Final EIR to be potentially significant impacts that can be reduced to a less than significant level by imposition of mitigation measures within the powers of the SWRCB:

a. **Geology, Seismicity and Soils**

**Impact:** As discussed in Volume I at pages 8-14 to 8-15, slope failure and seismic ground shaking could damage the on-site landfill for the disposal of the mine waste material and the Mine Run Dam before it is dismantled .

**Findings:** The following mitigation measures as discussed at pages 8-15 to 8-17 of the Final EIR are hereby imposed as a provision of the Remediation Plan and will be monitored in compliance with the SWRCB MMP. In order to mitigate the potential slope failure of the on-site landfill due to excessive erosion, landsliding, or earthquake ground shaking, the on-site landfill shall be designed to meet or exceed the requirements of the California Code of Regulations, Title 23, Chapter 15, for Group A mining wastes. Geological investigations will be conducted, and the slopes will be designed to withstand the appropriate design level earthquake. These mitigation measures will reduce geological, seismic, and soil impacts to a level of insignificance.

b. Water Quality

**Impact:** As discussed in Volume I at pages 8-25 to 8-26, drainage with metal concentrations may be associated with Alternative 5A for a limited period after construction. Elevated levels of metals and other constituents, such as sulfates, are most likely during the first few years after waste removal, because fresh water flowing through the restored site will dissolve and flush residual salts that have been deposited in shallow bedrock and soil through leaching of the waste material over the last 150 years. Given the three-year construction schedule, it is expected that a significant portion of the flushing will occur during the wet season between the second and third years of construction after waste has been removed, but before Mine Run Dam is removed. During this period, before being dismantled, the existing In-Line System (ILS) will continue to operate as necessary to treat runoff in Mine Run Dam Reservoir (MRDR) so that significant discharges of metals will not occur. During later years (after dam removal), it is expected that the large volumes of high quality water flowing through the site from the Mine Run Creek and particularly Hinkley Run Creek drainages will result in metal concentrations in surface water that are comparable to or less than concentrations in other ephemeral streams in the region. Concentrations will decline as additional rainfall accumulates and as successive rainfall events occur.

**Findings:** The following mitigation measures, as discussed at pages 8-29 to 8-30 of Volume I, page 43 of Volume II, and pages 15 and 19 of the CRD of the Final EIR, are hereby imposed as a provision of the Remediation Plan and will be monitored in

compliance with the SWRCB MMP. There will be regular monitoring of water quality in Camanche Reservoir near the site of Mine Run Dam during construction of Alternative 5A and for not less than three years following implementation. During construction, active waste treatment will continue with the existing ILS in conjunction with surface water diversion and control in impoundments (potentially utilizing evaporation); and the physical hydraulic flushing of the remediated areas utilizing water hoses, or other equivalent means, during construction year two after the site has been cleaned of all bulk waste materials. The water generated by the flushing will be collected behind Mine Run Dam, treated, and released to Camanche Reservoir. The final design of the Shaft No. 4 plug will consider the need for grouting in the area of the shaft opening. Ground water extraction below MRDR will be considered if monitoring during construction indicates that ground water presents a risk to receiving water. After construction, if necessary to meet best management practices or other standards, a passive anoxic, limestone, or other comparable method will be used. These mitigation measures will reduce any water quality impacts to a level of insignificance.

c. **Biology**

**Impact:** As discussed in Volume I at pages 8-54 to 8-55, releases of metals and other constituents to Camanche Reservoir could impact the fish or other aquatic biologic communities. This impact is potentially significant, but can be mitigated. Alternative 5A will moderately increase the discharge of copper and zinc in both ground water and surface water, but should be less than pre-Mine Run Dam conditions. Removal of surface impoundments and wastes in Hinkley Run and Mine Run Creeks will result in significantly lower releases of metals within the Creeks, and may have a beneficial impact on biological resources in the Creeks. Although Alternative 5A will result in moderately higher concentrations and loadings of metals to Camanche Reservoir than existing with Mine Run Dam in place, these incremental increases may not pose a substantial risk because, in terms of load reduction from historical levels, there is very little absolute difference between Alternative 5A and Alternative 1 (the existing condition as shown in Tables 4-22 and 4-23 on pages 4-112 and 4-113 of Volume I of the Final EIR). Based on physical and chemical water quality mitigation measures approved herein, including monitoring, it is not anticipated that fish in Camanche Reservoir with elevated tissue levels of metals will be identified.

**Findings:** The following mitigation measures as discussed at pages 8-29 to 8-30 and 8-57 of Volume I are hereby imposed as provisions of the Remediation Plan and will be monitored in

compliance with the SWRCB MMP. Temporary measures such as the operation of treatment systems during construction will be taken. Treatment during construction will avoid or minimize the potential impact of metal discharges (see findings under b. **Water Quality**, above). Since it is anticipated that impacts to fish in Camanche Reservoir will be avoided as a result of the physical and chemical water quality mitigation measures being implemented, including monitoring, bioassays will not be required. These mitigation measures will reduce any health impacts to fish or humans to a level of insignificance.

4. The SWRCB anticipates that all of the significant impacts within the SWRCB's jurisdiction that are associated with implementation of Alternative 5A will be mitigated to a level of insignificance. However, to the extent that implementation of Alternative 5A results in unavoidable impacts, the SWRCB adopts and makes the following Statement of Overriding Considerations regarding the potentially unavoidable impacts of Alternative 5A. The SWRCB finds that any potentially unavoidable impact is overridden by and acceptable in light of the following benefits of adopting and implementing Alternative 5A.

The SWRCB also finds that each matter set forth below is, independently of the other matters, an overriding consideration warranting approval of Alternative 5A notwithstanding any potentially unavoidable impacts.

a. Alternative 5A will essentially eliminate the generation of ARD from the Penn Mine site. This is a substantial beneficial impact of the Project.

b. Alternative 5A will remove surface impoundments and mine waste from Hinkley Run and Mine Run Creeks and restore their flow through their natural channels. This will greatly improve water quality in these creeks. Any increased metal loading in Camanche Reservoir and the Mokelumne River is likely to be temporary and probably will be mitigated during Project implementation to an insignificant level. If it cannot be mitigated to insignificance, there will be very little absolute difference in metal loadings between Project Alternative 5A and the no action alternative.

After implementation of Alternative 5A, long-term water quality in the Creeks, Camanche Reservoir, and the Mokelumne River will be substantially better than the conditions before Mine Run Dam Reservoir was installed. This is a substantial beneficial impact of the Project.

c. Alternative 5A includes substantial restoration of the physical and biological environment at the site. This is a

substantial long-term benefit in comparison to any short-term environmental impact.

5. The documents and material constituting the record of this proceeding include the Final EIR, the MMP, the Remediation Plan, the resolutions adopted by the CVRWQCB and EBMUD certifying the Final EIR and adopting the MMP, and the files of the SWRCB pertaining to the Penn Mine site. These documents are located at the SWRCB's office, 901 P Street, Sacramento, California, 95814.

6. The SWRCB's Executive Director is hereby directed to file a Notice of Determination, in accordance with the law, with the County Clerk of Amador County, Calaveras County, and San Joaquin County, and the Office of Planning and Research.

#### CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 19, 1997.

---

Maureen Marché  
Administrative Assistant to the Board

**EXHIBIT A**

**STATE WATER RESOURCE CONTROL BOARD**

**MITIGATION MONITORING PLAN (MMP)  
FOR REMEDIATION PLAN IMPLEMENTATION  
PENN MINE, CALAVERAS COUNTY**

The Central Valley Regional Water Quality Control Board (CVRWQCB) and East Bay Municipal Utility District (EBMUD) shall submit monthly written reports to the State Water Resources Control Board (SWRCB) reporting the monitoring results for all of the items in the table attached hereto as Table 1, which is excerpted from the MMP and references Volume I of the Draft EIR and the Comment Response Document in the Final EIR. These monthly reports shall continue until all monitoring required on Table 1 is completed. The SWRCB's Executive Director or his designee may reduce the frequency of reporting if monthly reports are not needed for adequate mitigation monitoring.

MITIGATION MONITORING PLAN

MEASURE NUMBER	MITIGATION MEASURE SUMMARY	IMPLEMENTATION PROCEDURE	MONITORING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
----------------	----------------------------	--------------------------	--------------------	---------------------------	---------------------

GEOLOGY

Geo-5.2A (Volume I pg 8-16)	In order to mitigate the potential for damage resulting from seismic ground shaking during construction, Mine Run Dam (MRD) will be monitored and dismantled in compliance with Division of Safety of Dam (DSOD) requirements.	MRD was designed and constructed in accordance with DSOD requirements (Department of Water Resources Certificate of Approval 3132, dated January 3, 1979). During construction, inspection and monitoring will continue to ensure the dam is maintained and dismantled consistent with DSOD requirements.	Periodic inspections are performed monthly by EBMUD Operations. Annual inspections are also performed by the Materials Engineering group at EBMUD and State DSOD personnel. The Federal Energy Regulatory Commission also performs annual inspections.	The Operations group of EBMUD is responsible for inspection and maintenance of MRD. Materials Engineering Group at EBMUD evaluates inspection reports, and is responsible for safety aspects of the dam.	Monthly and annual inspections.
Geo-5.2B (Volume I pg 8-17)	Conduct geotechnical studies of slope and earthquake hazards, and implement the recommendations.	Final design of Alternative 5.A shall include geotechnical investigations to support the design and assure the stability of slopes of the landfill and the restored site under static and dynamic conditions. Erosion control measures shall be developed and implemented to avoid slope failures.	The Project Managers for design and construction of Alternative 5A for EBMUD and the CVRWQCB shall review the final design and assure that it is supported by adequate investigation and analysis.	Penn Mine Project Managers for EBMUD and the CVRWQCB.	During each phase of design review, and at the conclusion of design.



MITIGATION MONITORING PLAN

MEASURE NUMBER	MITIGATION MEASURE SUMMARY	IMPLEMENTATION PROCEDURE	MONITORING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
----------------	----------------------------	--------------------------	--------------------	---------------------------	---------------------

WATER QUALITY

Wat-5.1.A (Volume I pg 8-29)	EBMUD and the CVRWQCB shall conduct regular monitoring of water quality (specifically metals) at a site in Camanche Reservoir near the site of MRD (removed for this alternative) during construction for a period of not less than three years following implementation. If no change in metal concentration is detected, further mitigation is not required. If an increase in metals is detected, monitoring shall continue to identify sources of contaminants, and additional mitigation measures shall be considered.	<p>A detailed monitoring plan will be submitted to U.S. Environmental Protection Agency (U.S. EPA) for review and approval pursuant to a revised 309 Order. The monitoring plan will specify surface and ground water sampling locations, sampling stations in receiving waters, parameters to be analyzed, and the frequency of sampling. The plan was described generally in the Environmental Impact Report (EIR), and in the Comment Response Document (CRD).</p> <p>During construction, the existing treatment plant will continue to operate, and sampling of discharges and receiving waters will continue in accordance with the requirements of the U.S. EPA 309 Order, which requires monthly monitoring reports.</p>	As required by the plan, EBMUD and CVRWQCB staff, or their designees, will perform sampling, and submit periodic reports to U.S. EPA and other appropriate agencies, such as the SWRCB.	EBMUD and CVRWQCB Penn Mine project managers.	Monthly, Quarterly, Annually
Wat-5.1.B (Volume I pg 8-29)	If necessary, the project sponsors shall employ temporary passive measures to control elevated concentrations of metals during the period when residual metals leached from waste materials are being flushed from the site.	Following construction, EBMUD and the CVRWQCB will monitor runoff from the site to assess the effectiveness of the alternative. If monitoring identifies previously unrecognized sources of contaminants, additional measures, such as temporary passive systems utilizing chemical neutralizers (e.g., limestone or organic soils) may be installed.	The monitoring program will include inspection of the site and documentation of sampling and analysis results to assess the effectiveness of the site restoration.	EBMUD and CVRWQCB Penn Mine project manager	Assess effectiveness and any need for additional measure annually.

# MITIGATION MONITORING PLAN

MEASURE NUMBER	MITIGATION MEASURE SUMMARY	IMPLEMENTATION PROCEDURE	MONITORING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
CRD, pg 15	The final design of the Shaft plug shall consider the need for grouting in the vicinity of the shaft opening. The determination of grouting requirements will consider the characteristics of the rock mass surrounding the plug, and the anticipated range of hydraulic conditions that may be encountered.	Designers will collect information and analyze flow characteristics of bedrock in the vicinity of the shaft to determine whether grouting would be beneficial. Analyses and design recommendations will be presented in the final design report.	EBMUD and CVRWQCB design reviewers will assess the adequacy of the analyses during design review and approval.	EBMUD and CVRWQCB project managers.	During design reviews and at completion of design.
CRD, pg 19	Ground water extraction will be considered if monitoring of ground water during construction of the long term plan indicates that ground water presents a risk to receiving waters.	Designers will collect information and analyze flow characteristics of bedrock to determine whether ground water extraction would be beneficial. Analyses and design recommendations will be incorporated in the final design.	EBMUD and CVRWQCB design reviewers will assess the adequacy of the analyses during design review and approval.	EBMUD and CVRWQCB project managers.	During design reviews and at completion of design.
CRD, pg 75	The construction of the restored site shall include geochemical measures, such as the inclusion of a limestone layer, organic rich soils, or equivalent means designed to absorb metals and reduce off site releases as needed.	Designers will analyze the effectiveness of passive treatment through geochemical measures, including potential locations and amounts of materials to be used. Analyses and design recommendations will be presented in the final design report.	EBMUD and CVRWQCB design reviewers will assess the adequacy of the analyses during design review and approval.	EBMUD and CVRWQCB project managers.	During design reviews and at completion of design.

## AQUATIC BIOLOGY

Wat.5.1.A (Volume I pg 8-57)	A biological monitoring program is not currently planned for reasons summarized in the Draft EIR, and in the CRD. Monitoring of physical parameters, as described above, will provide adequate information regarding the effectiveness of the project.	see Wat-5.A.A above	see Wat-5.1.A above	see Wat-5.1.A above	see Wat-5.1.A above
------------------------------------	--	---------------------	---------------------	---------------------	---------------------